

WHAT IS CLAIMED IS:

1. An ophthalmic lens mold, said mold comprising:

a first mold half having a front side and a back side, said front side defining an optical surface; and

a second mold half having a front side defining an optical surface,

wherein, upon alignment of said first mold half with respect to said second mold half so that said front sides oppose each other, a mold cavity is formed between said front sides to form an ophthalmic lens therein from a moldable material so that said optical surfaces form respective opposing optical surfaces of said ophthalmic lens, and

wherein said first mold half includes

a first section that transmits light and that extends from said back side to said front side, said first section including at least an area of said first mold half optical surface enclosed by an outermost circumference of said ophthalmic lens, and

a second section co-molded with said first section and that blocks said light, said second section disposed with respect to said first section so that

said second section prevents said curing light incident to said back side from passing through said first mold half into an area of said mold cavity that extends from said first mold half front side to said second mold half front side and that surrounds and extends radially outward of a boundary including said circumference, and

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 said first section passes said incident light to an area of said mold cavity bounded by and within said boundary.

2. The mold as in claim 1, wherein said first section includes a thermoplastic material.

3. The mold as in claim 1, wherein said second section includes a thermoplastic material.

4. The mold as in claim 1, wherein said first section includes polymethylmethacrylate and wherein said second section includes polymethylmethacrylate and butadiene.

5. The mold as in claim 1, wherein said first section optical surface is convex and wherein said first section forms a concave surface at said back side so that said first section defines a central section between said convex surface and said concave surface having a substantially uniform thickness.

6. The mold as in claim 5, wherein said second section extends from said first mold half front side to said first mold half back side.

7. The mold as in claim 5, wherein said first section includes at least one extension extending radially outward from said center section into said second section.

8. The mold as in claim 7, wherein said extension is an elongated tab.

9. The mold as in claim 1, wherein one of said first mold half and said second mold half includes a plurality of protrusions extending forward of said front side thereof to bear on the other of said first mold half and said second mold half upon said alignment of said first mold half and said second mold half so that said front sides are spaced from each other to form said mold cavity.

10. The mold as in claim 9, wherein each of said first mold half and said second mold half includes a plurality of said protrusions, wherein said protrusions of said first mold half bear on said protrusions of said second mold half.

11. The mold as in claim 1, wherein one of said first mold half and said second mold half includes an annular collar that, upon said alignment of said first mold half and said second mold half, receives the other said mold half and aligns said optical surface of said other mold half with respect to said optical surface of said one of said first mold half and said second mold half.

12. The mold as in claim 1, wherein said second mold half includes a back side, a said first section and a said second section.

13. The mold as in claim 1, wherein said curing light is ultraviolet light.

14. The mold as in claim 1, wherein said curing light is collimated.

15. An ophthalmic lens mold, said mold comprising:

a first mold half having a center section defining an optical surface having a circular circumferential edge; and

a second mold half having a center section of substantially defining an optical surface,

wherein one of said optical surfaces is convex and the other of said optical surfaces is concave,

wherein, upon alignment of said first mold half with respect to said second mold half so that said optical surfaces oppose each other, a mold cavity is formed between said mold halves to form an ophthalmic lens therein from a moldable material so that said

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optical surfaces form respective opposing optical surfaces of said ophthalmic lens, and

wherein said first mold half includes

a first section that transmits curing light and that includes at least said first mold half center section, and

a second section co-molded with said first section and that blocks said light, said second section surrounding said first section so that said second section prevents said light from passing through said first mold half into an area of said mold cavity that extends radially outward of a boundary parallel to said axis and including said circumferential edge and so that said first section passes said light to an area of said mold cavity bounded by and within said boundary.

16. The mold as in claim 15, wherein said center section has a substantially uniform thickness.

17. The mold as in claim 15, wherein said first section and said second section includes a thermoplastic material.

18. The mold as in claim 15, wherein said first section includes polymethylmethacrylate said second section includes polymethylmethacrylate and butadiene.

19. The mold as in claim 15, wherein said first section includes at least one extension extending radially outward from said center section into said second section.

20. The mold as in claim 15, wherein one of said first mold half and said second mold half includes an annular collar that, upon said alignment of said first mold half and said second mold half, receives the other said mold half and aligns said optical surface of said other mold half with

respect to said optical surface of said one of said first mold half and said second mold half, and

at least one of said first mold half and said second mold half includes protrusions extending therefrom to space said mold halves from each other to form said mold cavity upon said alignment of said first mold half with said second mold half.

21. The mold as in claim 20, wherein said other mold half includes a plurality of protrusions that extend radially therefrom and, upon said alignment of said first mold half and said second mold half, bear on said collar.

22. The mold as in claim 15, wherein said second mold center section has a circular circumferential edge of an equal diameter as said first mold half center section circumferential edge, and wherein said second mold half includes a said first section and a said second section.

23. The mold as in claim 15, wherein said curing light is ultraviolet.

24. The mold as in claim 15, wherein said curing light is collimated.

25. An ophthalmic lens mold, said mold comprising:

a first mold half having a center section defining an optical surface having a circular circumferential edge; and

a second mold half having a center section defining an optical surface,

wherein one of said optical surfaces is convex and the other of said optical surfaces is concave,

wherein, upon alignment of said first mold half with respect to said second mold half so that said optical surfaces oppose each other, a mold cavity is

formed between said mold halves to form an ophthalmic lens therein from a moldable material so that said optical surfaces form respective opposing optical surfaces of said ophthalmic lens,

wherein said first mold half includes

a first section that transmits curing light and that includes said first mold half center section, and

a second section co-molded with said first section and that blocks said light, said second section surrounding said first section so that said second section prevents collimated said curing light from passing through said first mold half parallel to the axis of said circumferential edge into an area of said mold cavity that extends radially outward of a boundary parallel to said axis and includes said circumferential edge and so that said first section passes said collimated light to an area of said mold cavity bounded by and within said boundary,

wherein said first section includes at least one extension extending radially outward from said center section into said second section, and

wherein one of said first mold half and said second mold half includes an annular collar that, upon said alignment of said first mold half and said second mold half, receives the other said mold half and aligns said optical surface of said other mold half with respect to said optical surface of said one of said first mold half and said second mold half.

26. A method of injection molding an ophthalmic lens mold having a mold half that includes a center section that defines an optical surface having a circular circumferential edge, said mold half including a first section that includes at least said

center section and a second section surrounding said center section, said method comprising the steps of:

(a) injecting a molten moldable first material to fill a first mold cavity, wherein said mold cavity defines a center section for forming said mold half center section and wherein said first material transmits curing light when solidified, through a gate radially offset from said mold cavity center section with respect to the axis of said circumferential edge;

(b) cooling said first material to form a first section of said ophthalmic lens mold;

(c) injecting a molten moldable second material to fill a second mold cavity through a gate radially offset from said mold half center section, wherein said second mold cavity extends about said mold half center section radially outward of a boundary parallel to said axis and including said circumferential edge, wherein said second cavity meets and completely surrounds said boundary and wherein said second material blocks said light when solidified.

27. The method as in claim 26, wherein said step (a) includes injecting a said first material that includes a thermoplastic material and wherein said step (c) includes injecting a said second material including a thermoplastic material.

28. The method as in claim 26, wherein each of said first material of step (a) and said second material of step (c) includes polymethylmethacrylate.

29. The method as in claim 26, wherein said second material of step (c) includes butadiene.

30. The method as in claim 26, wherein said first cavity is defined by opposing mold sides meeting at a parting line generally perpendicular to said axis, wherein at least one said mold side includes at

least one section movable away from said first cavity, and wherein said method includes the step of moving said at least one section away from said first cavity prior to step (c) to form said second mold cavity.

31. The method as in claim 26, including the step of removing said ophthalmic lens mold from said first mold cavity following step (b) and placing said ophthalmic lens mold in said second mold cavity prior to step (c).

32. The method as in claim 26, wherein said center section has a substantially uniform thickness.

33. An ophthalmic lens mold, said mold comprising:

a first mold half defining a first optical surface; and

a second mold half defining a second optical surface,

wherein said first optical surface is convex and said second optical surface is concave so that a mold cavity shaped to form an ophthalmic lens is defined between said optical surfaces when said first mold half and said second mold half are together in an operative position in which said first optical surface opposes said second optical surface, and

wherein said first mold half and said second mold half receive each other in a snap fit to retain said first mold half and said second mold half in said operative position.

34. The mold as in claim 33, wherein one of said first mold half and said second mold half defines a radially extending first protrusion, wherein the other of said first mold half and said second mold half defines a radially extending second protrusion, and wherein said first and second protrusions are

respectively disposed on said one mold half and said other mold half so that said first and second protrusions ride over and beyond each other as said one mold half and said other mold half are brought to said operative position and thereafter resist separation of said one mold half and said other mold half from said operative position.

35. The mold as in claim 33, wherein
said first mold half defines an outer first circumferential surface,

said second mold half defines an inner second circumferential surface disposed so that said first and second surfaces oppose each other when said first and second mold halves are in said operative position,

said first surface defines a first protrusion extending radially outward therefrom,

said second surface defines a second protrusion extending radially inward therefrom, and

said first and second protrusions are respectively disposed on said first and second surfaces so that said first and second protrusions ride over and beyond each other as said first mold half and said second mold half are brought to said operative position and thereafter resist separation of said first mold half and said second mold half from said operative position.